FEDERAL SIGNAL
Safety and Security Systems

Informer-PA for Public Address Interface

Model I-IP2 Series C
Dual Rack/Wall Mount

Description, Specifications, Installation, and Operation Manual

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Limited Warranty

This product is subject to and covered by a limited warranty, a copy of which can be found at www.fedsig.com/SSG-Warranty. A copy of this limited warranty can also be obtained by written request to Federal Signal Corporation, 2645 Federal Signal Drive, University Park, IL 60484, email to info@fedsig.com or call +1 708-534-3400.

This limited warranty is in lieu of all other warranties, express or implied, contractual or statutory, including, but not limited to the warranty of merchantability, warranty of fitness for a particular purpose and any warranty against failure of its essential purpose.

FEDERAL SIGNAL
Safety and Security Systems

2645 Federal Signal Drive
University Park, Illinois 60484

www.fedsig.com

Customer Support	800-548-7229 • +1 708 534-3400
Technical Support	800-524-3021 • +1 708 534-3400

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⚠ WARNING

It is important to follow all instructions shipped with this product. This device is to be installed by trained personnel who are thoroughly familiar with the country electric codes and will follow these guidelines as well as local codes and ordinances, including any state or local noise control ordinances. Listed below are important safety instructions and precautions you should follow:

Planning

- If suitable warning equipment is not selected, the installation site for the Informer is not selected properly or the Informer is not installed properly, it may not produce the intended optimum audible warning. If applicable, follow Federal Emergency Management Agency (FEMA) recommendations.
- If the Informer is not activated in a timely manner when an emergency condition exists, it cannot provide the intended audible warning. It is imperative that knowledgeable people, who are provided with the necessary information, be available at all times to authorize activation.
- The sound output of the Informer is capable of causing permanent hearing damage. To prevent excessive exposure, carefully plan placement, post warnings, and restrict access to areas near sirens.
- Activating the Informer may not result in people taking the desired actions if those to be warned are not properly trained about the meaning of warning sounds. Users should follow FEMA recommendations and instruct those to be warned of correct actions to be taken.

After installation, service, or maintenance, test the system to confirm that it is operating properly. Test the system regularly to confirm that it will be operational in an emergency.

Safety Messages to Installers

People's lives depend on your safe installation of our products. It is important to follow all instructions shipped with this product. This device is to be installed by a trained electrician who is thoroughly familiar with the National Electrical Code and/or Canadian Electrical Code and will follow the NEC and/or CEC Guidelines as well as all local codes.

The selection of the mounting location for this Informer, its controls and the routing of the wiring are to be accomplished under the direction of the Facilities Engineer and the Safety Engineer. Listed below are some other important safety instructions and precautions you should follow:

- Electrocution or severe personal injury can occur when performing various installation and service functions such as making electrical connections, drilling holes, or lifting equipment. Therefore, only experienced electricians should install this product in accordance with national, state and any other electrical codes having jurisdiction. Perform all work under the direction of the installation or service crew safety foreman.
- Read and understand all instructions before installing, operating, or servicing this equipment.
- All effective warning sounds may, in certain circumstances, cause permanent hearing loss. Take appropriate precautions such as wearing hearing protection. Maximum sound level exposure limits specified in OSHA 29 CFR 1910 should not be exceeded. Review and comply with any local or state noise control ordinances as well as OSHA noise exposure regulations and guidelines.
- For optimum sound distribution do not install this speaker where objects would block any portion of the front of the Informer.
- Establish a procedure to routinely check the signal system for proper activation and operation.

- Any maintenance to the unit MUST be performed by a trained electrician in accordance with NEC Guidelines and local codes or a Federal Signal certified Service Provider.
- Never alter the unit in any manner.
- The nameplate should NOT be obscured, as it contains cautionary and/or other information of importance to maintenance personnel.
- After installation and completion of initial system test, provide a copy of these instructions to all personnel responsible for operation, periodic testing, and maintenance of the equipment.
- File these instructions in a safe place and refer to them when maintaining and/or reinstalling the device.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death.

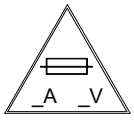
Installation and Service

- After installation or service, test the system to confirm that it is operating properly. Test the system regularly to confirm that it will be operational in an emergency.
- If future service and operating personnel do not have these instructions to refer to, the system may not provide the intended audible warning, and service personnel may be exposed to death, permanent hearing loss, or other bodily injury. File these instructions in a safe place and refer to them periodically. Give a copy of these instructions to new recruits and trainees. Also give a copy to anyone who is going to service or repair the Informer.
- To reduce the risk of electric shock, do not perform any servicing other than what is contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel. Always test the Informer before using after repairs have been made.

Ethernet Wiring

- Unless shielded or run in conduit, Ethernet wiring must be at least six feet from bare power wiring or lightning rods and associated wires, and at least six inches from other wire (for example, antenna wires, doorbell wires, wires from transformers to neon signs), steam or hot water pipes, and heating ducts.
- Do not place Ethernet wiring or connections in any conduit, outlet or junction box containing high voltage electrical wiring.

Symbol Definition



Indicates to reduce the risk of fire, replace fuse as marked.

Pay careful attention to the notice located on the equipment.

Read and understand the information contained in this manual before attempting to install or service the Informer.

General Description

Introduction

The Informer-PA (model I-IP2) is part of the Federal Signal Intelligent Systems product line designed to interface in-building Public Address (PA) systems. An I-IP2 houses two Informer-PA PCBs each capable of driving one amplifier channel. Each Informer-PA is an independent device with a LAN interface, digital voice message storage, relays, alarm input, and audio out. Setup is required for each Informer-PA in an I-IP2.

The Informer-PA has an audio output for connecting to existing PA systems and two relay outputs to control external devices. An RS232 port is available for driving an optional scrolling message display. The Informer-PA provides seven standard alert tones and can store up to 4,000 voice or tone messages with 17 hours of total prerecorded tone and voice alerts.

You can rack mount the unit or wall mount using removable brackets. You can power it through Power over Ethernet (PoE) from a network or through local AC power (using external transformer). Using existing network infrastructure significantly lowers installation costs and simplifies wide-scale deployments.

The Informer-PA provides an unmatched value for indoor alert and notification for schools, hospitals, police and fire stations, government facilities, and industrial plants.

See the Informer-IP Series C Setup, Program, and User Manual (part number 25500395 revision C or later) to learn how to set up, configure, program, and use Informer-IP devices.

Features

The Informer-PA has the following features; some features require using the Federal Signal Commander software system:

- Two independent Informer-PA interfaces.
- 19 inch 1RU rack mount or wall mount.
- Tone and Voice Alert and Notification compatible with Federal Signal Controllers.
- Deliver intelligible voice messages from locally prerecorded files or through the Commander® system.
- Removable microSD card for custom message generation. Store up to 4000 voice or tone messages that total up to 17 hours of recording time.
- Rear input for external fault input.
- Adjustable volume control and exceptional sound quality.
- Integrated Modbus® TCP industrial PLC interface for control and monitoring.
- Integrated SIP phone interface for live PA, remote wave file, and function control.
- Commander and CommanderOne® HMI software provide configuration, control, activation, and notification options.
- Seven factory-installed siren tones: wail, alternate wail, pulsed wail, steady, alternate steady, pulsed steady, and Westminster chime (auxiliary).

- LED status indicators for Power.
- Ability to activate onboard relays to control external devices.
- Informers are addressable Individually, in Groups, or All.
- Requires minimal network bandwidth and uses TCP/IP protocol for security and reliability.
- Remote supervision of Communications, Audio Output, Alert Function Execution.
- Supports fixed IP, DHCP, and Auto-IP.
- Wired Ethernet.
- Works with redundant SmartMsg and Commander® network servers for reliable fail-safe operation with full two-way control, status monitoring, and configuration of the Informer-PA.

Ordering Information

Table 1 Ordering Information

Part Numbers	Description
I-IP2	Dual Rack/ Wall/Desk Mount Informer PA
I-IP-IO	Informer-IP Desk Mount
I-IPW	Informer-IP Wall Mount
I-IP100DC	Informer100 24 Vdc 100-watt speaker
I-IP100AC	Informer100 120/240 Vac 100-watt speaker

Federal Signal Commander application software provides advanced configuration, control, and status monitoring for the Informer-IP.

There is a programming fee associated with Informer-IPs programmed at the factory. Contact your local representative for a quotation.

You can order the following accessories separately.

Table 2 Optional Accessories

Part Numbers	Description
I-SMD2-36	Scrolling Message Display (2 x 36 inches)
X-SPA2120	Rack Mount Amplifier (2 channel 120-watt/channel)
AMR6-2570K	Ceiling Speaker, 6-inch round, 25/70 V, includes tile bridge and back box
AM300	Wall Speaker, 30 watts, swivel mount
RA-700	Rack Mount Amplifier (2 channel 350 watt/channel)

Specifications

Table 3 Specifications

Operating Voltages	9-15 Vdc 108-128 Vac, 60 Hz with wall transformer
Operating Current (from wall transformer for I-IP2)	Standby (at 12 Vdc) ≤ 400 mA Signaling (at 12 Vdc) < 650 mA
Operating with PoE, IEEE 802.3af, 48V input (for each Informer-PA device)	PoE: 48 Vdc (42 to 57 Vdc), IEEE 802.3af Standby (at 48 Vdc) < 200 mA Signaling (at 48 Vdc) < 300 mA
Audio Data	8000 samples/sec, µLaw compression
Audio Data Playback Storage	17 hours and 4,000 messages with 2 GB microSD card
Audio Frequency response	300-3000 Hz, +1 to -3 dB per octave
Warning Siren Audio	Seven factory-installed siren tones: wail, alternate wail, pulsed wail, steady, alternate steady, pulsed steady, and Westminster chime (auxiliary)
Serial Port	RS232C, N, 8, 1 Baud rate configurable
Ethernet Port	IEEE 802.3, 10 BASE-T connection
Operating temp range	-22°F to +140°F (-30°C to + 60°C)
Humidity range	0-95%, non-condensing
Size (H x W x L)	1.7 x 14.0 x 6.1 inches (43.18 x 355.6 x 154.94 mm)
Weight	2.5 lb (1.1 kg)
Shipping Weight	4 lb (1.8 kg)

Table 4 Compliance

Electromagnetic Interference	Complies with FCC Title 47, Part 15
FCC Part 15 Class B	Radio Frequency Interference (RFI) (FCC 15.105) The Informer-PA was tested and found to comply with the limits for Class B digital devices pursuant to Part 15 Subpart B of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on. Try to correct the interference by one or more of the following measures: • Increase the separation between the equipment and the receiver. • Connect the equipment to a different circuit than the receiver that it is connected to.
Electrical Code Compliance	Complies with UL 60065 and CAN/CSA Std. C22.2 No. 60065

Installation

⚠ WARNING

Read and adhere to all safety warnings in this manual before installing the Informer-PA.

To prevent injury, this apparatus must be securely attached to the wall per the installation instructions.

⚠ DANGER

SHOCK HAZARD: Electrocution or severe personal injury can occur when making electrical connections, drilling holes, or lifting equipment. Therefore, experienced electricians, per national and local electrical codes, acting under the direction of the installation crew safety foreman, should perform the installation.

Determine a Suitable Location

When choosing a location for the Informer-PA, consider the following criteria:

- Place as far as possible from electrically noisy electronic devices to avoid interference. Examples of noisy devices may include microwave ovens, motor-driven devices, light ballasts, and electrical switching devices.
- Requires a connection to a wired Ethernet network. Ethernet wire runs must be less than 328 feet (100 meters) from the nearest network switch.
- Rack or wall mounting is recommended after you have found a suitable location.
- Place within 6 feet (1.8 meters) of an AC power receptacle to eliminate the need for an extension cord unless a Power over Ethernet (PoE) connection is available.

Rack Mounting

The Informer-PA is designed for a 19-inch rack mount. Attach the bracket to the Informer-PA with supplied screws.

Figure 1 Attach Bracket

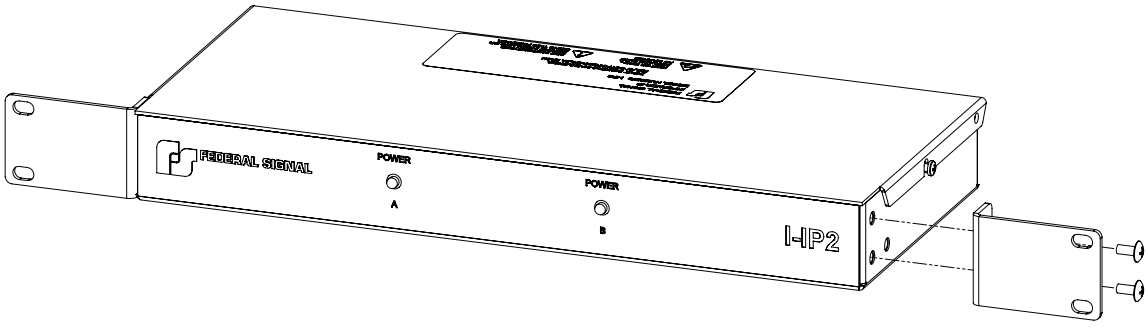
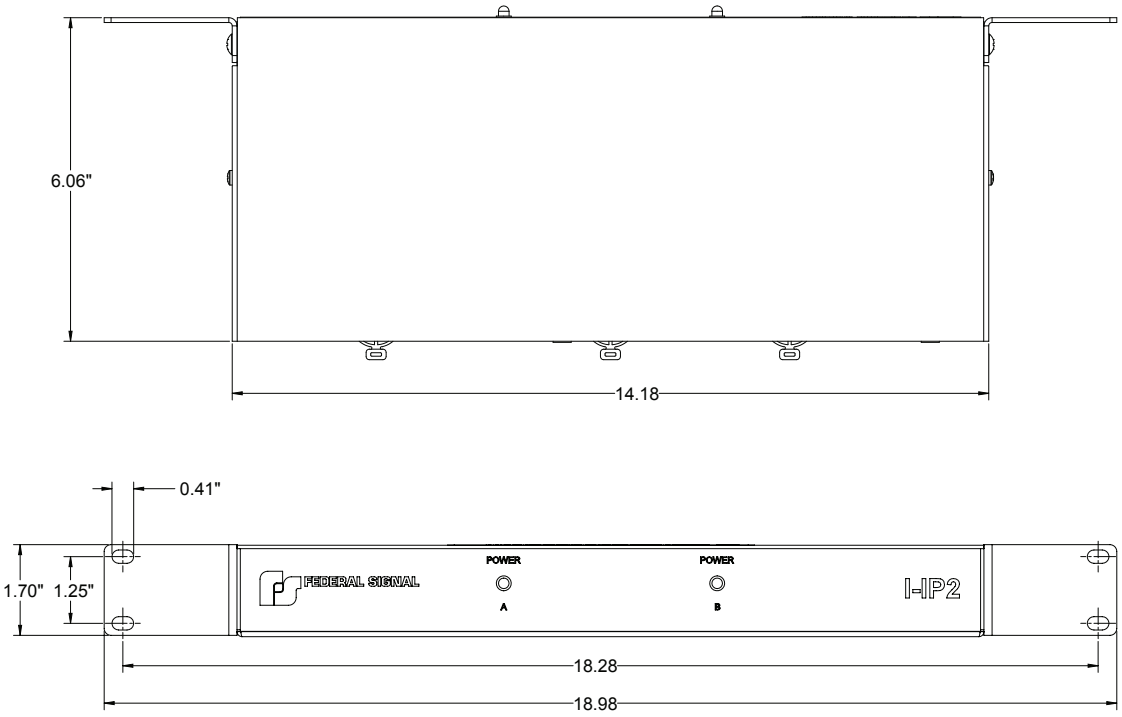


Figure 2 Rack Mount Dimensions



Connect each Informer-PA to the LAN using CAT5 cable. If the Wired Ethernet has PoE, no other power connection is required.

If PoE is not available, run the supplied external AC/DC power supply against the wall and plugged into a 120 Vac, 60 Hz outlet. Plug the low-voltage end of the cord into the power jack located at the rear of the Informer-PA. Route the cord to ensure it is protected against walking on, tripping over, or pinching the cord.

Wall Mounting

The Informer-PA can also be wall mounted by moving the mounting brackets. Before mounting the unit, determine a suitable location considering the criteria listed. Ensure the screws are placed into material that can adequately support the weight of the Informer-PA. The maximum bolt diameter that fits the bracket slot when mounting to drywall is #12. Ensure that the screws are tightened sufficiently to securely fasten the Informer-PA against the wall.

Figure 3 Attach Bracket

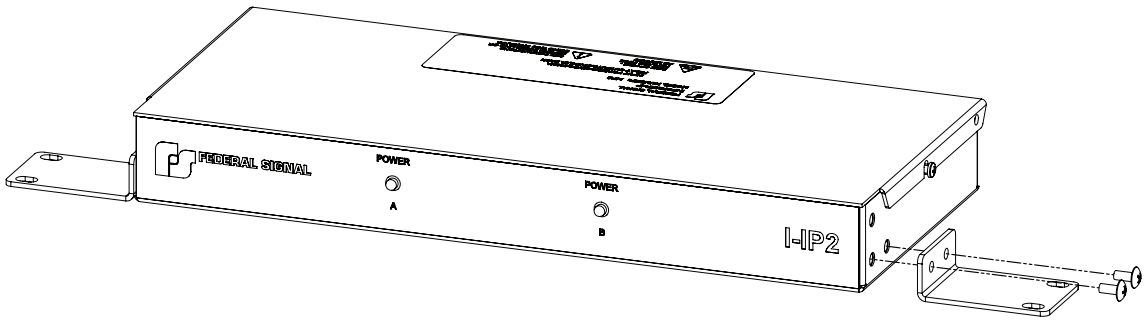
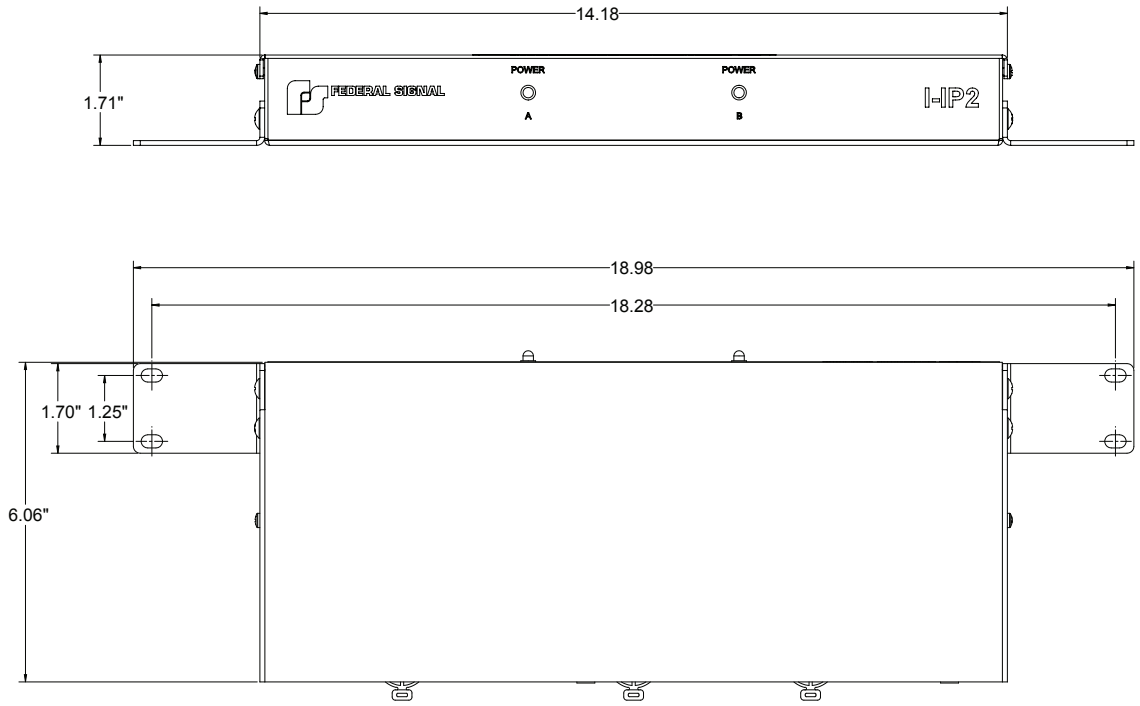


Figure 4 Wall Mount Dimensions



Connect the Informer-PA to the LAN using CAT5 cable. If the Wired Ethernet has PoE, no other power connection is required.

If PoE is not available, run the supplied external AC/DC power supply against the wall and plugged into a 120 Vac, 60 Hz outlet. Plug the low-voltage end of the cord into the power jack located at the rear of the Informer-PA. Route the cord to ensure it is protected against walking on, tripping over, or pinching the cord.

Memory Card Removal and Installation

The microSD card stores voice and tone messages.

To remove the card:

1. Remove the top of the Informer.
2. Find the microSD card for each of the Informer-PA's PCB inside the I-IP2.
3. The PCB may require removal from the enclosure for the microSD card to be removed.
4. Gently push the card into the slot. The card can then be removed.

To install the card:

1. Insert and gently push the card until it latches into place. Replace the PCB if removed.
2. Replace cover and tighten screws.

Testing and Training

After the installation is complete, do the following:

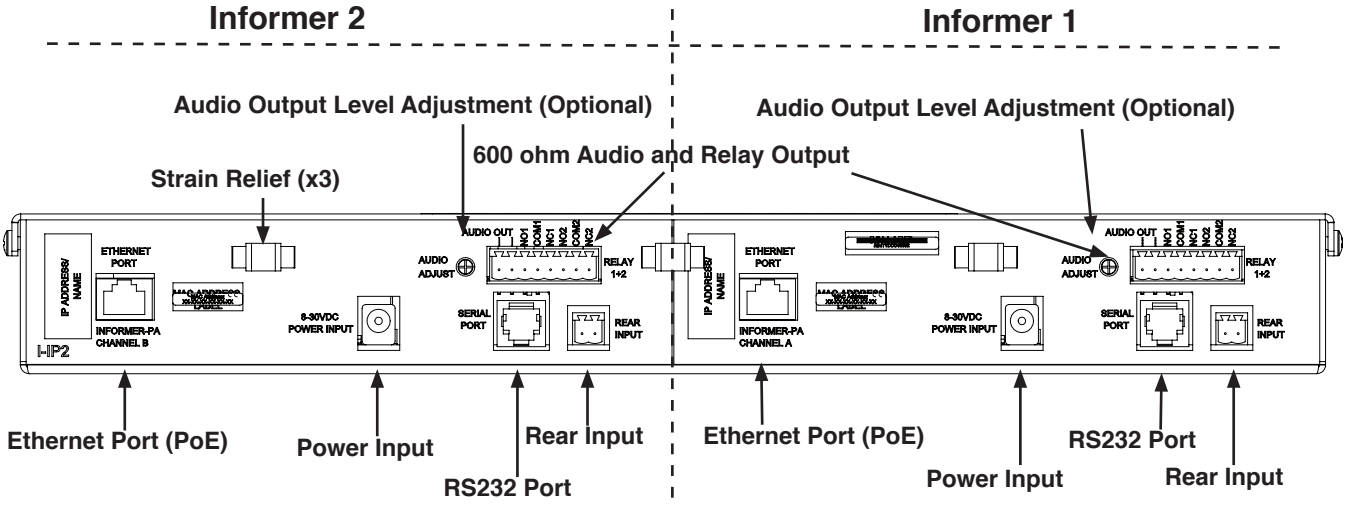
- Test the Informer-PA and all accessories from the control point(s) to ensure it is operating properly.
- Ensure all users are properly trained to use the system before putting the Informer-PA into service.
- Verify all tone, voice, and text messages contain the correct content per the emergency operating plan. Alerts should exceed the ambient sound levels by at least 10 dB to ensure they can be heard.
- Conduct testing regularly per facility safety plans to ensure the equipment remains in working order, and operators remain familiar with the use of the equipment.

Operations

Figure 5 Informer-PA Back View with Power Supply

Input/Output Locations

Figure 6 Informer-PA Input/Output Locations



Visual Indications

Table 5 Visual Indications

LED	Description
POWER	The green Power LED turns on when power is connected and the device is connected to a Federal Signal enabled network server. The Power LED flashes on for 100 ms when the unit is disconnected from the server.

Audio/Relay - Input/Output Connections

The relays can be programmed to cycle on and off, or come on continuously with programmable on time, off time, and total-time.

The relay outputs can be reset manually or reset after a programmable number of seconds.

A removable eight-position connector is located on the rear of the Informer-PA for making electrical connections. The connector accepts 3/16-inch (5 mm) stripped wire, 18-26 AWG.

The output level is adjustable from 0 to 2.5 V_{P-P} into 600 ohms with a 1 kHz tone.

Each Informer-PA has two SPDT relays rated at 5 A at 30 Vdc.

Make electrical connections to the Input/Output connector as follows.

Table 6 JP3 Input/Output Connections

JP3	(Field Wiring) 1 – Normally closed, relay #2 2 – Common, relay #2 3 – Normally open, relay 2 4 – Normally closed, relay #1 5 – Common, relay #1 6 – Normally open, relay 1 7 – 600 ohms audio output 8 – 600 ohms audio output

Alert Rear Input

Located on the back of the Informer-PA housing is a two-position Rear Input Connector. The removable connector accepts 5 mm (3/16 in) stripped wire, 18-26 AWG.

Table 7 J1 Rear Input

J1	Rear Input (Dry contact across pins activates input) 2 – Active low input (Pulled to 4.5 Vdc internally through 4.75 kilohms) 1 – Ground

RS232 Port

The RS232 Port uses a six-pin modular connector. Federal Signal can provide pre-terminated cables when scrolling message displays are purchased.

Table 8 FS232 Connector Pin-out

Pin	Description
1	Serial / Flash Select
2	TXD
3	RXD
4	GND
5	CTS / Serial Clock In
6	RTS

Ethernet Port

The Informer-PA has an eight-pin Ethernet port for connecting to the Communications network. The port accepts 42 to 57 Vdc PoE per IEEE 802.3af. Ethernet wire runs must be less than 328 feet (100 meters) from the nearest network switch. The wired Ethernet port auto-negotiates a 10/100, full or half-duplex connection.

Power Connector

The Informer-PA can be powered via PoE from the LAN connection. The Informer-PA can also be powered from the equipped wall type plug-in external AC/DC power supply. The connections for power are in the table.

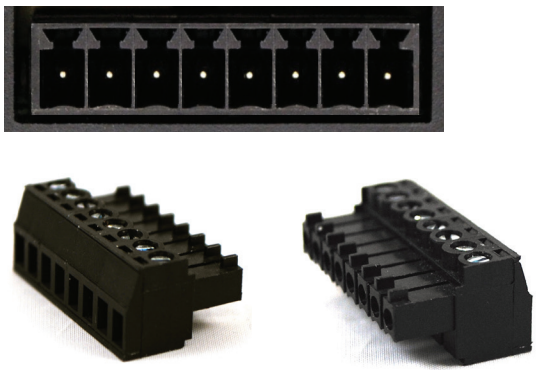
Table 9 J2 Input Power

J2	Power connector Center – (9 to 15 Vdc) Outside – GND

Replacement Parts

The Informer-PA uses one of these two types of connectors: one with slots or one without slots. Match the eight-pin connector of your Informer to the picture below and order the corresponding part number.

Table 10 Replacement Part Numbers

Picture	Part Number
	13900406A-08
	140372A-08

Getting Service

If you are experiencing any difficulties, contact Federal Signal Customer Support at 800-548-7229 or 708-534-3400 extension 7511 or Technical Support at 800-524-3021 or 708-534-3400 extension 7329 or through e-mail at techsupport@fedsig.com. For instruction manuals and information on related products, visit http://www.fedsig.com/